UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/824,746	04/04/2001	Tomochika Murakami	862.C2192	9718

5514 7590 08/19/2004		

FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER
ZAND, KAMBIZ

ART UNIT	PAPER NUMBER
2132	

DATE MAILED: 08/19/2004

6

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _04 April 2001_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-15_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) _4-9,11,13 and 15_ is/are allowed.

6)☒ Claim(s) _1-3,10,12 and 14_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _04 April 2001_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _3/06-26-01_.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____ .

DETAILED ACTION

1.   **Claims 1-15** have been examined.

2.   Foreign Priority benefit claimed under Title 35, United States Code, § 119 have

been acknowledged.

Specification

3.   The disclosure is objected to because of the following informalities:

Specification needs to include updated information with respect to an earlier application

in which the priority benefit is claimed. Please see below for detail:

An application in which the benefits of an earlier application are desired must contain a

specific reference to the prior application(s) in the first sentence of the specification.

The specific reference to any prior nonprovisional application must include the

relationship (i.e., continuation, divisional, or continuation-in-part) between the

applications except when the reference is to a prior application of a CPA assigned the

same application number.

Appropriate correction is required.

Drawings

4.   The Examiner has accepted the drawings filed on 04/04/2001.

DETAILED ACTION

1.   **Claims 1-15** have been examined.

2.   Foreign Priority benefit claimed under Title 35, United States Code, § 119 have

been acknowledged.

Specification

3.   The disclosure is objected to because of the following informalities:

Specification needs to include updated information with respect to an earlier application

in which the priority benefit is claimed. Please see below for detail:

An application in which the benefits of an earlier application are desired must contain a

specific reference to the prior application(s) in the first sentence of the specification.

The specific reference to any prior nonprovisional application must include the

relationship (i.e., continuation, divisional, or continuation-in-part) between the

applications except when the reference is to a prior application of a CPA assigned the

same application number.

Appropriate correction is required.

Drawings

4.   The Examiner has accepted the drawings filed on 04/04/2001.

Information Disclosure Statement PTO-1449

5.   The Information Disclosure Statement submitted by applicant on 06/26/2001

(paper number 3) has been considered. Please see attached PTO-1449.

Claim Objections

6.   **Claims 1 and 3** are objected to because of the following informalities: typo error.

Examiner suggests the following corrections:

Claim 1:

- Replacement of phrase "an" (line 1, second occurrence) with "a" phrase.

Claim 3:

- deletion of "(" and ")" symbols, lines 6 and 8 respectively.

Claim Rejections - 35 USC § 112

7.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the
subject matter, which the applicant regards as his invention.

8.   **Claims 1-3, 10, 12 and 14** are rejected under 35 U.S.C. 112, second paragraph,

as being indefinite for failing to particularly point out and distinctly claim the subject

matter which applicant regards as the invention.

9.   **Regarding claims 1, 10, 12 and 14,** the phrase " irrotationally symmetric pattern arrangement " renders the claim indefinite. It is not clear if the " irrotationally symmetric pattern arrangement " involves rotational of symbols (positive or negative) over an axis that is symmetric but not the same (overlapping), in that case is there an exception for angle of Zero and 360 degrees or not? Or it involves watermarking information that includes of not only rotation but also location or orientation information as another element and is a symmetric pattern on that basis? Or simply not being able to rotate at all and therefore in that case it is not clear what is the symmetric pattern?

- Examiner considers the phrase " irrotationally symmetric pattern arrangement " as broad as possible where watermarking information includes the rotation and location information with respect to positive and negative symbols within two dimensional matrix and therefore symmetric, for the purpose of examination. **Examiner strongly suggests that specific limitations that correspond to the phrase " irrotationally symmetric pattern arrangement " be included in the claim language in order to distinguish it over the prior art.**

- **Examiner also would remind the Applicant that although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).**

Claims 2 and 3 renders the claim indefinite because of their dependency on independent claim 1.

10.   **Claim 3** recites the limitation "the positive or negative symbols of each

corresponding elements" in lines 2 and 3 of the claim. There is insufficient

antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

11.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by
> another filed in the United States before the invention by the applicant for patent or (2) a patent
> granted on an application for patent by another filed in the United States before the invention by the
> applicant for patent, except that an international application filed under the treaty defined in section
> 351(a) shall have the effects for purposes of this subsection of an application filed in the United States
> only if the international application designated the United States and was published under Article 21(2)
> of such treaty in the English language.

Claim 1-3, 10, 12 and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by

Rhoads et al (6,614,914 B1).

As per claim 1 Rhoads et al (6,614,914 B1) teach an image processor for embedding

in image data a digital watermark **(see col.1, lines 57-67 where the invention**

provides watermark structures and related embedders for processing the

watermark structure for applying to images) including position and rotation

information **(see col.2, lines 12-16 where the digital watermark may include**

location that corresponds to applicant's position; and orientation that
corresponds to Applicant's rotation information, fig.6, item 616 disclose a rotated
block after transformation; col.14, lines 53-58 also disclose positions and rotation
data block) , using an irrotationally symmetric pattern arrangement **(Please see 112
rejection of claim 1 with respect to the limitation** "irrotationally symmetric pattern
arrangement" and Examiner's interpretation in that regard; **see fig.6, item 604 where a
two dimensional Fourier transform is disclosed and where the item 604 will finally
turns to item 616 as a rotated data block; col.13, lines 56-63 disclose fig.6 with
respect two dimensional FFT; col.28, lines 53-63 disclose symmetric patterns
option with respect degrees considered based on the type of the symmetric and
finally col.37, lines 55-58 where the blocks of the images are divided into blocks
of MXN and col.38, lines 14-15 disclose NXM may be considered as a matrix that
maps each bits into a location and therefore Rhoads disclose Applicant's**
"irrotationally symmetric pattern arrangement").

As per claim 2 Rhoads et al (6,614,914 B1) teach the image processor according to
claim 1, wherein said irrotationally symmetric pattern arrangement is a two-dimensional
matrix constituted by m X n elements **(see col.13, lines 57-63 disclose two
dimensional FFT with respect to block images; col.37, lines 55-58 where the
blocks of the images are divided into blocks of NXM and col.38, lines 14-15
disclose NXM may be considered as a matrix).**

As per claim 3 Rhoads et al (6,614,914 B1) teach the image processor according to claim 1, wherein said irrotationally symmetric pattern arrangement is a pattern arrangement for which the positive or negative symbols **(see col.37, lines 63-65 where the positive and negative symbols that is the value of $W0_1$ is disclosed)** of each corresponding elements are not wholly the same if the pattern arrangement is rotated at an arbitrary angle except for angles of 360 degrees multiplied by an integer number **(see col.28, lines 60-62 where pattern arrangement is rotated between angle of 0-180 and 180-270 with the exception of 360 in a symmetric pattern and rotating between the angles corresponds to Applicant's arbitrary angle; col.38, lines 65-66 disclose using the inverse function in order to extract the image yields to an estimate and not an exact and that estimate corresponds to Applicant's element not be wholly the same after rotation).**

As per claim 10 Rhoads et al (6,614,914 B1) teach an image processing method of embedding in an image digital watermark information **(see col.1, lines 57-67 where the invention provides watermark structures and related embedders for processing the watermark structure for applying to images)** including position and rotation information **(see col.2, lines 12-16 where the digital watermark may include location that corresponds to applicant's position; and orientation that corresponds to Applicant's rotation information, fig.6, item 616 disclose a rotated block after transformation; col.14, lines 53-58 also disclose positions and rotation data block),** using an irrotationally symmetric pattern arrangement **(Please see 112**

rejection of claim 1 with respect to the limitation "irrotationally symmetric pattern

arrangement" and Examiner's interpretation in that regard; **see fig.6, item 604 where a**

two dimensional Fourier transform is disclosed and where the item 604 will finally

turns to item 616 as a rotated data block; col.13, lines 56-63 disclose fig.6 with

respect two dimensional FFT; col.28, lines 53-63 disclose symmetric patterns

option with respect degrees considered based on the type of the symmetric and

finally col.37, lines 55-58 where the blocks of the images are divided into blocks

of MXN and col.38, lines 14-15 disclose NXM may be considered as a matrix that

maps each bits into a location and therefore Rhoads disclose Applicant's

"irrotationally symmetric pattern arrangement").

As per claim 12 Rhoads et al (6,614,914 B1) teach a computer program product

embodying a program **(see col.37, lines 35-43 where a software may be deploy to**

do the watermarking and extraction where the software corresponds to

Applicant's computer program product embodying a program) for implementing an

image processing method of embedding in an image digital watermark information **(see**

col.1, lines 57-67 where the invention provides watermark structures and related

embedders for processing the watermark structure for applying to images)

including position and rotation information **(see col.2, lines 12-16 where the digital**

watermark may include location that corresponds to applicant's position; and

orientation that corresponds to Applicant's rotation information, fig.6, item 616

disclose a rotated block after transformation; col.14, lines 53-58 also disclose

positions and rotation data block), using an irrotationally symmetric pattern

arrangement **(Please see 112 rejection of claim 1 with respect to the limitation**

"irrotationally symmetric pattern arrangement" and Examiner's interpretation in that

regard; **see fig.6, item 604 where a two dimensional Fourier transform is disclosed**

and where the item 604 will finally turns to item 616 as a rotated data block;

col.13, lines 56-63 disclose fig.6 with respect two dimensional FFT; col.28, lines

53-63 disclose symmetric patterns option with respect degrees considered based

on the type of the symmetric and finally col.37, lines 55-58 where the blocks of

the images are divided into blocks of MXN and col.38, lines 14-15 disclose NXM

may be considered as a matrix that maps each bits into a location and therefore

Rhoads disclose Applicant's "irrotationally symmetric pattern arrangement").

As per claim 14 Rhoads et al (6,614,914 B1) teach a computer data signal embodied in

a propagating wave **(see col.10, lines 20-27 where it disclose watermark signal**

could be in the form of wavelet transform that corresponds to Applicant's

propagating wave) and used for implementing an image processing method of

embedding in an image digital watermark information **(see col.1, lines 57-67 where the**

invention provides watermark structures and related embedders for processing

the watermark structure for applying to images) including position and rotation

information **(see col.2, lines 12-16 where the digital watermark may include**

location that corresponds to applicant's position; and orientation that

corresponds to Applicant's rotation information, fig.6, item 616 disclose a rotated

block after transformation; col.14, lines 53-58 also disclose positions and rotation

data block), using an irrotational symmetric pattern arrangement **(Please see 112**

rejection of claim 1 with respect to the limitation "irrotationally symmetric pattern

arrangement" and Examiner's interpretation in that regard; **see fig.6, item 604 where a**

two dimensional Fourier transform is disclosed and where the item 604 will finally

turns to item 616 as a rotated data block; col.13, lines 56-63 disclose fig.6 with

respect two dimensional FFT; col.28, lines 53-63 disclose symmetric patterns

option with respect degrees considered based on the type of the symmetric and

finally col.37, lines 55-58 where the blocks of the images are divided into blocks

of MXN and col.38, lines 14-15 disclose NXM may be considered as a matrix that

maps each bits into a location and therefore Rhoads disclose Applicant's

"irrotationally symmetric pattern arrangement").

Allowable Subject Matter

12.   **Claims 4-9, 11, 13 and 15** are allowed.

13.   The following is an examiner's statement of reasons for allowance: Rhoads et al

(6,614,914 B1) teach an image processor, a method, a computer program product

embodying a program and a computer data signal embodied in a propagating wave for

embedding in image data a digital watermark **(see col.1, lines 57-67 where the**

invention provides watermark structures and related embedders for processing

the watermark structure for applying to images) including position and rotation

information **(see col.2, lines 12-16 where the digital watermark may include**

location that corresponds to applicant's position; and orientation that

corresponds to Applicant's rotation information, fig.6, item 616 disclose a rotated

block after transformation; col.14, lines 53-58 also disclose positions and rotation

data block and extracting based on that information in contrast with specific

Applicant's invention where, for a plurality of rotation angles different from one another;

a plurality of start-of-extraction positions different from one another; calculating means

for calculating confidence coefficients indicating accuracy as to whether said position

and rotation information is extracted; and determining means for determining the

position and rotation angle at which said digital watermark information is embedded in

said image data, based on the confidence coefficient calculated by said calculating

means **as recited in independent claims 4, 11, 13 and 15**.

14.   **Dependent claims 5-9 are allowable** as being dependent upon Independent

claim 4 and having additional allowable features therein.

Conclusion

15.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure:

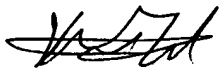a.   U.S.Patent No. US (6,577,745 B1) teach watermark detection.

b.   U.S.Patent No. US (4,873,653) teach microscope system for providing

three-dimensional resolution.

c.   U.S.Patent No. US (6,438,252 B2) teach method for encoding bits in a

signal.

d.   U.S.Patent No. US (6,208,735 B1) teach secure spread spectrum

watermarking for multimedia data.

e.   U.S.Patent No. US (6,282,300 B1) teach rotation, scale and translation

resilient public watermarking for images a log-polar Fourier transform.

f.   U.S.Patent No. US (6,385,329 B1) teach wavelet domain watermarks.

g.   U.S.Patent No. US (6,373960 B1) teach embedding watermarks into

compressed video data.

16. Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Kambiz Zand whose telephone number is (703)

306-4169. The examiner can normally reached on Monday-Thursday (8:00-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Gilberto Barron can be reached on (703) 305-1830. The fax phone

numbers for the organization where this application or proceeding is assigned as

(703) 872-9306. Information regarding the status of an application may be

obtained from the Patent Application Information Retrieval (PAIR) system. Status

information for published applications may be obtained from either Private PAIR

or Public PAIR. Status information for unpublished applications is available

through Private PAIR only. For more information about the PAIR system, see

http://pair-direct.uspto.gov. Should you have questions on access to the Private

PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197

(toll-free).

Kambiz Zand

08/17/04